

ABSTRACT

[0066] A “power adaptive circular” (PAC) transmission scheme that can support both spatial multiplexing and transmit diversity for multi-carrier MIMO systems and has a number of desirable characteristics, including the ability to: transmit a variable number of symbol streams, provide transmit diversity for each transmitted symbol stream, support coded interference estimation technique at a receiver, and use power efficiently. In one method, at least one stream of symbols is received for transmission on a plurality of subbands and from a plurality of antennas. The at least one stream of symbols is multiplexed such that (1) the symbols in each stream are transmitted from the plurality of antennas (e.g., diagonally across the subbands and antennas) and (2) the at least one stream starts in the same subband. A stream of multiplexed symbols is formed for each antenna and further processed, and may be transmitted at full power available for the antenna.